



1054 31ST STREET, N. W.
WASHINGTON, D.C. 20007
TELEPHONE (202) 342-4000
TWX: (710) 822-0103

Subject: Monthly Progress Report #10

Enclosure: (1) RDT System Status (27 July 78)
(2) Module Breakdown by Function

Gentlemen:

This report is submitted in compliance with the requirements of paragraph 4.6 of the Statement of Work and covers the period of 1 July 1978 thru 31 July 1978. A summary of accomplishments and work planned for next period is presented below.

Accomplishments

Progress was minimal in July. Vacation schedules and the loss of personnel slowed the coding, test and de-bug effort down. As reported last month, we are progressing with the conversion from RTE-2 to RTE-3. Re-design of those modules impacted by the change in operating system and the additional core has begun. A meeting was held at the governments facility on 27 July 1978 to review the technical and schedule performance of the contract. The COTR was appraised of the current technical problems and solutions and a revised schedule presented. SCI is proceeding to implement the technical changes identified and is working to the schedule provided.

Problems

All of the problems have been discussed in previous reports and meetings. There are no additional problems to report.

Plans for Next Period

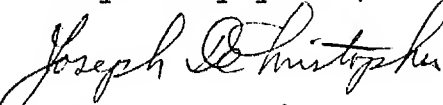
The biggest effort in August will be a complete technical review of each module and the development of Interface Specifications at the sub-module (Function) level. Based on past experience it's more meaningful to track and schedule activities below the module level. We have taken each of the 14 modules and broken them down into the various functions which comprise them. This detailed breakdown is presented in Enclosure 2. Future scheduling and reporting will be done at this functional level. Formal testing will be done at the module level only. As it turns out, several of the modules cannot be tested unless an exhaustive test routine is developed. Testing of these modules will be delayed until they get integrated into the system.

Cost Performance Profile

The data presented below are engineering estimates and do not reflect actuals as collected by SCI's standard accounting procedures to be submitted in accordance with the progress payments clause of the contract.

Manhours expended to date	11,514
Contract value	\$287,815
Funds expended to date	\$263,586
Funds remaining	24,229

Very truly yours,



Joseph DeChristopher
Program Manager

MODULE BREAKDOWN BY FUNCTION

1) Communications Module

CMIDV	Communications Input Driver
CMIHD	Communications Input Handler
CRC16	CRC Check (microcode)
DVR70	Output Driver
CMOHD	Communications Output Handler
CCCMD	Circuit Control Commands
TIMER	Timer Controls
QCWC	Que Control-Word Controller
TI	TI Assignment (microcode)

2) Message Processing Module

MPI	Message Processing Input
MPC	Message Processing Control
BELL	Flash Message Alarm

3) Operator Interface Module

OPIØ	SCC Console Interface
OPI1	Operator Console 1 Interface
OPI2	Operator Console 2 Interface
DMØ	SCC Console Display Message Control
DM1	Operator Console 1 Display Message Control
DM2	Operator Console 2 Display Message Control
MSHW	Message Show Routine
DCOPY	Disc Copy
DATHD	DATA Message Header Generation
DATTX	DATA Message Text Generation
TTYHD	TTY Message Header and Text Generation

4) Disc File Manager Module

FMGRD	FM General Read
FMGWT	FM General Write
FMMRD	FM Message Read
FMMWT	FM Message Write

5) Core Buffer Manager (No Longer Exists, ref Utilities #10)

6) LOGS Controller Module

LOGC	Log Controller (& Processor)
------	------------------------------

7) Report Generator Module

RPTG	Report Generator
------	------------------

8) Other Real Time Processes Module

CRTIO	CRT Request, Validate and Que
CRTSC	CRT Request De-Que and Processing
CRIOE	CRT Request Error Handling

9) Other Non-Real Time Processes Module

NUT	Initiate Utilities Controller
T9	Tape Input Nut Processing
T10	Card Input Nut Processing
SPOLI	Spool In
SPOLO	Spool Out
SPOLT	Spool Tape

10) Utilities Module

QDC	Distribution Que Control
QIC	Input Que Control
CBM	Core Buffer Manager
CDCV	Code Conversions
MLC	Message Line Control
CHEK	Alphanumeric Checking
MCBH	MCB Handling
JDTGH	Julian Date Time Group Handling
MCOPY	Message Copy

11) Initialization Module

INIT	Initialization
------	----------------

12) Alarms Controller Module

ALARM	Alarm Controller
-------	------------------

13) System and Module Test Routines (None)

14) System Security Protection Module

CLEAR	System Clearing
TSN	TSN Assignment (microcode)

27 July 1978

RDT SYSTEM STATUS

BACKGROUND:

- PRESENT 2100MX SYSTEM HAS 32.0K WORDS OF RESIDENT MEMORY
- APROX. 16.0K WORDS OF RESIDENT MEMORY IS REQUIRED TO ACCOMMODATE THE REAL TIME EXECUTING/OPERATING SYSTEM (RTE-2)
- RDT APPLICATION PROGRAMS REQUIRE APPROX. 22.0K WORDS OF RESIDENT MEMORY

PROBLEM:

- MEMORY RESTRICTIONS REQUIRED RESIDENT MEMORY APPLICATION PROGRAMS TO BE PLACED IN DISC STORAGE RESULTING IN:
 - DISC CONTENTIONS
 - EXTENDED RESPONSE TIME
 - SOFTWARE TASK SCHEDULING

SOLUTION:

- EXPAND RESIDENT MEMORY FROM 32K TO 64K TO ACCOMMODATE REQUIRED APPLICATION PROGRAMS
- CONVERT THE OPERATING SYSTEM FROM RTE-2 TO RTE-3 TO ACCOMMODATE THE EXPANDED MEMORY AND ENHANCE THE SYSTEM SUPPORT, PROCESSING AND APPLICATION PROGRAMS

SYSTEM IMPROVEMENTS:

- 32K ADDITIONAL CORE PURCHASED AND INSTALLED
- RTE-3 PURCHASED AND BEING INSTALLED
- OVERALL SYSTEM HAS BEEN SIMPLIFIED
 - DISC SWAPPING REDUCED
 - TASK INTERFACES MORE DIRECT

- DISTRIBUTION QUE DEVELOPED
 - PRIORITY DRIVEN BY EACH TASK
 - SYSTEM RESPONSE TIME NOT TASK LIMITED
(EACH TASK OPERATES AT ITS OWN SPEED)
- MESSAGE CONTROL BLOCK ASSIGNED TO EACH MESSAGE ON DISC
 - ELIMINATES THE RESTRICTION ON THE NUMBER OF MCB's
WITHIN CORE
 - INCREASES SYSTEM THRU-PUT RATE

PROGRAM MANAGEMENT CHANGES:

- JOE DECHRISTOPHER ASSIGNED FULL TIME
- BOB QUADT ASSIGNED AS TECHNICAL DESIGN LEADER
- HEWLETT PACKARD CONSULTANT RETAINED TO ASSIST IN RTE-2/
RTE-3 CONVERSION
- ADVISORY COMMITTEE ESTABLISHED
(CONDUCT TECHNICAL DESIGN REVIEWS ON A WEEKLY BASIS, SUPPORT
BY ROSSLYN DIVISION)
- TWO ADDITIONAL PEOPLE WILL BE BROUGHT ON BOARD TO MAKE UP
FOR LOSS OF PERSONNEL

27 July 1978

RDT SYSTEM DEVELOPMENT

